

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1-21. Cancelled

22. (New) Brake-by-wire actuator for actuating the brake system of a motor vehicle, comprising a simulator which can be acted upon by a brake pedal, with an output signal of an actuation sensor being sent to an electronic control unit which controls a pressure source in response to the signal of the actuation sensor, and with an output of the pressure source that is connected to a distributor device for the brake force and actuates individual wheel brakes of the vehicle, also comprising means for enabling actuation of the brakes by muscular power within a fallback mode,

wherein a lost travel is provided between a first actuation component such as the brake pedal in particular or a component articulated at the brake pedal and a second actuation component that is connected downstream in the flux of force, in particular an input member, in order to uncouple the first actuation component mechanically from the reactions of force of the motor vehicle brake system in a by-wire mode.

23. (New) Brake-by-wire actuator as claimed in claim 22,
wherein a means is provided in order to automatically reduce the lost travel after a by-wire mode at the commencement of a brake actuation executed by muscular power.

24. (New) Brake-by-wire actuator as claimed in claim 23,
wherein said means may be actuated by means of an electric, electromagnetic, hydraulic, or pneumatic actuator, which will automatically adopt a closing position for reducing the lost travel in the fallback mode.

25. (New) Brake-by-wire actuator as claimed in claim 24,
wherein the means is provided as a clutch between the two actuation components.

26. (New) Brake-by-wire actuator as claimed in claim 25,
wherein the means comprises a block-shaped body which bridges the lost travel between the actuation components in a form-fit manner.

27. (New) Brake-by-wire actuator as claimed in claim 25,
wherein the actuator includes a spring for the elastic preload of the block-shaped body and a solenoid for returning or keeping back the block-shaped body in the opening position.
28. (New) Brake-by-wire actuator as claimed in claim 22,
wherein the pressure source comprises a hydraulic booster with at least one hydraulic pump which is actuatable by electric signals in the by-wire mode, and wherein the actuation in the fallback mode is carried out hydraulically by way of a master brake cylinder.
29. (New) Brake-by-wire actuator as claimed in claim 28,
wherein the pump feeds a high-pressure accumulator.
30. (New) Brake-by-wire actuator as claimed in claim 22,
wherein the pressure source comprises a pneumatic booster which is actuatable by electric signals in the by-wire mode and mechanically by way of the actuation components in the fallback mode.
31. (New) Brake-by-wire actuator as claimed in claim 30,
wherein the pressure source includes a pneumatic booster and additionally a hydraulic pump being actuated, for example, in the event of a defect of the pneumatic booster or when boosting is not sufficient.
32. (New) Brake-by-wire actuator as claimed in claim 30,
wherein the pressure source includes an electromotively driven master brake cylinder.
33. (New) Brake-by-wire actuator as claimed in claim 22,
wherein there is provision of at least one member of the group consisting a travel sensor in a pneumatic booster, a pneumatic pressure sensor in the pneumatic booster, a differential pressure sensor in the pneumatic booster, and a hydraulic pressure sensor in a brake circuit detecting deviations from nominal values, and
wherein the electronic unit on account of detected sufficient deviations detects a malfunction such as the inclusion of air or a circuit failure in the brake system and initiates appropriate safety processes such as the fallback mode in particular.

34. (New) Brake-by-wire actuator as claimed in claim 33,
wherein the travel sensor and the pressure sensor or the differential pressure sensor detects a point of maximum boosting of the booster, and
wherein the hydraulic pump is started by way of the electronic unit.
35. (New) Brake-by-wire actuator as claimed in claim 33,
wherein the travel sensor or the pressure sensor or the differential pressure sensor detects a point of maximum boosting of the booster, and
wherein the hydraulic pump is started by way of the electronic unit.
36. (New) Brake-by-wire actuator as claimed in claim 22,
wherein the simulator includes a motor or a spring used to generate reaction forces.
37. (New) Brake-by-wire actuator as claimed in claim 25,
wherein the position of the point of application of the brake pedal in relation to the subsequent actuation component is adjustable.
38. (New) Brake-by-wire actuator as claimed in claim 37,
wherein the brake pedal is coupled to a clutch shaft pivotally mounted in its longitudinal direction which is longitudinally displaceable relative to the input member in dependence on its rotary position relative to the input member or is in engagement with the input member in an axial direction.
39. (New) Brake-by-wire actuator as claimed in claim 38,
wherein both the clutch shaft and the input member include projections serially arranged in their longitudinal direction in a row, and in a first rotary position of the clutch shaft in relation to the input member, the projections of the clutch shaft and the input member are disengaged, while in a second rotary position at least one projection of the clutch shaft is engaged with a projection of the input member.
40. (New) Brake-by-wire actuator as claimed in claim 39,
wherein several rows of projections are provided at a predetermined angular distance over a periphery of the input member and the clutch shaft.

41. (New) Brake-by-wire actuator as claimed in claim 39,
wherein the clutch shaft is equipped with a longitudinal bore that is open towards the input member, with one end of the input member projecting into said bore, and wherein peripheral surfaces of the end of the input member and of the longitudinal bore in the clutch shaft carry the projections.
42. (New) Brake-by-wire actuator as claimed in claim 38,
wherein the clutch includes a spring whose first end is supported on a housing of the clutch and whose second end is supported on a transmission member, with said transmission member being connectable to the clutch shaft pivotally mounted in its longitudinal direction, with said clutch shaft being longitudinally displaceable in relation to the transmission member in dependence on its rotary position with respect to the transmission member or being in engagement with the transmission member in an axial direction by way of projections.
43. (New) Brake-by-wire actuator as claimed in claim 42,
wherein the clutch shaft is in engagement with the input member and disengaged from the transmission member in at least one first rotary position and is disengaged from the input member and in engagement with the transmission member in at least one second rotary position.